

REFERENCES

- HORA, S. L. & NAIR, K. K. (1940a) : Further observations on the bionomics and fishery of the Indian Shad, *Hilsa ilisha* (Ham.) in Bengal waters. *Rec. Indian Mus.* 42(1) : 35-50.
- _____ & _____ (1940b) : The Jatka fish of Eastern Bengal and its significance in the fishery of the so-called Indian Shad, *Hilsa ilisha* (Ham.) in Bengal waters. *ibid* 42 (4) : 553-555.
- HYNES, H. B. N. (1950) : The food of freshwater sticklebacks (*Gasterosteus aculeatus* and *Pygosteus pungitius*), with a review of methods used in studies of the food of fishes. *J. animal Ecol.* 19(1) : 36-58.
- PILLAY, S. R. & ROSA JR. H. (1963) : Synopsis of biological data on *Hilsa, Hilsa ilisha* (Ham.), 1822. FAO Fisheries Biology Symposium No. 25.
- _____ & RAO, K. V. (1962) : Observations on the biology and fishery of the *Hilsa, Hilsa ilisha* (Ham.) of River Godavari. *Proc. Indo-Pacific Fish. Coun.* 10(2) : 37-61.

20. ON THE MECHANISM OF ESCAPE BY A MOTH FROM ACCIDENTAL DROWNING

The use of surface tension of water and the hydrophobe and water repellent properties of the cuticle and cuticular processes by various aquatic insects for locomotion, and suspension from the surface film and for respiration under water has been explained by Wigglesworth (1966)¹ who has also mentioned that terrestrial insects make use of surface forces in order to cling to surfaces too smooth to provide a firm hold for the claws.

Terrestrial insects, under certain circumstances, may also take advantage of the above factors for their survival, as observed in the following case. A small unidentified moth, about a centimetre in length was found on the surface of water contained in a shallow vessel, about ten centimetres in diameter. The moth obviously, must have fallen into water accidentally. Its behaviour on the water surface was interesting. The insect was seen walking a few steps on the surface film and suddenly jumping and vibrating the wings, apparently trying to take off. It repeatedly fell back on water but remained on the surface without any active effort on its part. The moth finally succeeded after a jump, flew for a short distance and landed on the ground a few centimetres away from the vessel. The moth was caught and examined and no trace of water could be found on any part of the body.

The above observation shows how a terrestrial insect can take advantage of the surface tension of water and the hydrophobe properties of the cuticle to escape from accidental drowning.

DEPARTMENT OF ZOOLOGY,
MALABAR CHRISTIAN COLLEGE,
CALICUT 1, KERALA,
March 25, 1968.

A. B. SOANS
J. S. SOANS

¹ Wigglesworth, V. B. (1966) : *Insect Physiology*. London.